DAP (Diammonium phosphate) / Ammonium sulfate

Last update 11/2017

-simple fermentation salts for the nitrogen supply of the fermenting yeast in the preparation of wines and distilling mashes -

Technical informations and instructions for use

Background:
The shortage of fermentable yeast to yeast-utilizable nitrogen can lead to stuck fermentations:
Nutrient-deficient yeast forms hydrogen sulfide (rank-tasting). Stuck fermentations are the cause of incomplete fermentations and thus poor alcohol yield. As a result, remaining sugar allows bacterial metabolic activities that spoil mash and cause flavor flaws in wine.

What does yeast need nitrogen for?
In order to be able to consume the oxygen which is still present at the beginning of fermentation by breathing, the yeast must be able to multiply and form cell substance. For this it needs nitrogen and phosphorus. Even during fermentation, yeast relies on these elements to renew their cell structure, stay alive, absorb fermentable sugars, and excrete alcohol.

Ordinary fermentation salts in comparison:
Diammonium phosphate (DAP) and **ammonium sulfate** are inexpensive inorganic ammonium salts containing nitrogen in a readily available form for the fermenting yeast. At the same time **DAP** acts as a phosphor supplier. **Ammonium sulfate** has the advantage over **DAP** of remaining free-flow properties even after prolonged storage and does not block.
Both fermentation salts supply the yeast with nitrogen, but not with essential amino acids, vitamins and survival factors, which they additionally need under difficult fermentation conditions. Reliable combination products of these nutrients and growth substances can be found in our range under the names **NUTRIV-IN** for winemaking and **Brennmaischennährstoff** for fruit distillers.

Admissability and limits:
The fermentation salts DAP and ammonium sulfate are permitted in conventionally produced fruit and honey wines in a maximum dosage of 30g/hl, in grape wines totaling 100g/hl. There are restrictions for organic products: for example, ammonium sulphate should not be used for the preparation of organic grape wine; Bioland forbids any yeast nutrition for organic honeywine.

Dosage:
The dosage of simple fermentation salts should depend on the nitrogen and sugar content of the juice or the mash at the beginning of the fermentation on the one hand and the requirements of the selected yeast used on the other hand. This requires laboratory analysis that are most likely to be routine in wineries. Otherwise one relies on empirical values for the fermentability.
100g DAP per hl provide 200mg of nitrogen per liter. This results in the following recommendations:
Fruit for winemaking as well as nutrient-poor fruit mashes with **20-40g fermentation salt/hl** are considered sufficient nitrogen supply.
High in tannins stone fruit or berry mashes (for example sloe, aronia and elderberries), sugar-rich grape mashes and musts and diluted molasses for rum production should be provided with **40-80g fermentation salt/hl**.

Application:
A reasonable nutrient supply to the fermenting yeast is to provide it with the missing nutrients only then when it has used up the available supply. This is the case with easily fermentable fruit mashes, fruit juices and grape musts on about the third day of fermentation. Hardly fermentable substrates should be treated with fermenting salt right at the start of fermentation.
The fermentation salt is dissolved in some water, juice or mash fluid and this nutrient solution is added to the ongoing fermentation. In wines and low-viscosity mashes a stir is unnecessary. In thick mashes, the nutrient solution can be carefully incorporated into the pomace, without blowing air into the mash.

Pack size **DAP**:

1kg-package	(No. 5360)
5kg-bag	(No. 5361)
25kg-bag	(No. 5362)

Pack size **ammonium sulphate**:

20g “yeast food“	(No. 6660)
100g “yeast food“	(No. 6661)
1kg-package	(No. 5350)
5kg-bag	(No. 5351)
25kg-bag	(No. 5352)

Storage:
Please store dry and at room temperature.